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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Oliver Hurst-Hiller

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EXAMINER

FERNANDEZ RIVAS, OMAR F

ART UNIT

PAPER NUMBER

2129

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/806,271

Applicant(s)

HURST-HILLER ET AL.

Examiner

Omar F. Fernández Rivas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>A1, A2</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This Office Action is in response to an AMENDMENT made by the Applicant entered on September 5, 2006.
2. The Office Action of June 2, 2006 is incorporated into this Final Office Action by reference.

### Status of Claims

3. Claims 1, 10, 18, 22, 25 and 26 have been amended. Claims 27-29 have been newly added. Claims 1-29 are pending on this application.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Biebesheimer et al. (US Patent Application Publication #2002/0152190, referred to as **Biebesheimer**).

### **Claims 1, 10 and 25**

Biebesheimer anticipates a method for obtaining predicted user satisfaction data regarding the performance of a search mechanism which provides search results in response to user queries (**Biebesheimer**: abstract, L1-26; obtaining a response set

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based on relevancy to the user's query is obtaining predicted user satisfaction data), comprising: storing at least one predictive pattern for predicting user satisfaction with said provided search results from data regarding user behavior in response to a query (**Biebesheimer**: abstract, L17-26; page 2, par 19, L6-12; page 3, par 32, L7-26; pages 5 and 6 pars 41-44; Fig. 1; storing user interactions (predictive patterns) to select a response set (predicting user satisfaction) based on the user's query) and applying said predictive pattern to at least one element of context-based user behavior data, said elements of context-based user behavior data comprising a performed query; provided search results; and user behavior data (**Biebesheimer**: abstract, L17-26; page 3, par 30, L1-14; pages 5 and 6 pars 41-44; the Adaptive Indexing algorithm); and generating predicted user satisfaction data based on the application of the predictive pattern to the at least one element of context-based user behavior data, the predicted user satisfaction data comprising an indication of user satisfaction (**Biebesheimer**: abstract, L1-12; page 1, par 2; page 2, par 18; page 3, par 30; page 5 pars 42-44; EN: generating a response set from the resource library based on the prediction of user's selections over time is considered a predictive pattern. The prediction that the user will select one of the items is user satisfaction data. The predicting functions will provide a model to predict the user's satisfaction. Moreover, generating a response set that includes the most relevant items to a user's query is user's satisfaction data).

**Claims 2 and 11**

Biebesheimer anticipates storing at least one predictive pattern comprises utilizing data mining techniques to determine at least one predictive pattern for user

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satisfaction (**Biebesheimer**: page 5, par 43-44; supervised learning is a data mining technique).

### **Claims 3 and 12**

Biebesheimer anticipates said user behavior data comprises explicit user feedback data collected from said user contemporaneously with said performed query (**Biebesheimer**: page 6, par 49; page 7, par 64, L1-12; page 8, pars 66-67; obtaining data from the user defining the query is explicit user feedback as defined in page 2, par 17 of the present application).

### **Claims 4 and 13**

Biebesheimer anticipates said user behavior data comprises implicit user feedback data (**Biebesheimer**: page 2, par 19, L6-22; page 5, par 41, L7-25; page 6, par 50; user interactions is user behavior data; the selections made by the user are implicit feedback as defined in page 2, par 17 of the present application).

### **Claims 5 and 14**

Biebesheimer anticipates said user behavior data is selected from the group comprising: user navigation to a new page using a hyperlink; user navigation to a new page using a history list; user navigation to a new page using an address bar; user navigation to a new page using a favorites list; user scrolling behavior; user document printing behavior; user adding a document to said favorites list; user switching focus to a different application; user switching focus back from a different application; user closing a window; user dwell time behavior; user initiation of a new query; sequences of user behaviors; and user inactivity without switching focus from a window relating to said

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performed query (**Biebesheimer**: page 3, par 30; page 3, par 32; page 5, par 41, L7-17; redefining a query is initiating a new query, user interactions is a sequence of user behavior).

#### **Claims 6 and 15**

Biebesheimer anticipates said application of said predictive pattern yields predicted user satisfaction data regarding said search mechanism (**Biebesheimer**: page 2, par 19; page 4, par 37; the Adaptive Indexing algorithm applies the predictive pattern. Maximizing the number of successful retrievals by improving the resource indexing functions is yielding predicted user satisfaction data regarding the search mechanism), and where said method further comprises: displaying said predicted user satisfaction data (**Biebesheimer**: page 6, par 49; page 9, par 73; the response set is predicted user satisfaction data).

#### **Claims 7 and 16**

Biebesheimer anticipates said application of said predictive pattern further comprises isolating a set of said performed queries which are unsatisfactory and which share a common characteristic (**Biebesheimer**: page 3, par 30, L19-28; page 7, par 59-60; page 8, par 70; the exclusionary filters isolate unsatisfactory search queries).

#### **Claims 8 and 17**

Biebesheimer anticipates said context-based user behavior data comprises a testing set of context-based user behavior data (**Biebesheimer**: page 3, par 33, L1-14; the minimal user context vector is a testing set of context based user behavior).

**Claim 9**

Biebesheimer anticipates at least one of an operating system, a computer readable medium having stored thereon a plurality of computer-executable instructions, a co-processing device, a computing device, and a modulated data signal carrying computer executable instructions for performing the method of claim 1 (**Biebesheimer**: page 13, claim 20).

**Claims 18 and 22**

Biebesheimer anticipates a method for real-time optimization of a search mechanism which provides search results in response to user queries (**Biebesheimer**: page 4, par 37; Fig. 1; improving the set of resource indexing functions is optimizing the search mechanism), comprising: storing at least one predictive pattern for predicting user satisfaction with a said provided search results from data regarding user behavior in response to a query (**Biebesheimer**: abstract, L17-26; page 2, par 19, L6-12; page 3, par 32, L7-26; pages 5 and 6 pars 41-44; Fig. 1; storing user interactions (predictive patterns) to select a response set (predicting user satisfaction) based on the user's query); applying said predictive pattern to at least one element of context-based user behavior data, said elements of context-based user behavior data comprising a performed query, provided search results, and user behavior data (**Biebesheimer**: abstract, L17-26; page 3, par 30, L1-14; pages 5 and 6 pars 41-44; the Adaptive Indexing algorithm); generating predicted user satisfaction data based on the application of the predictive pattern to the at least one element of context-based user behavior data (**Biebesheimer**: abstract, L1-12; page 1, par 2; page 2, par 18; page 3,

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par 30; pages 5 and 6 pars 42-44; EN: generating a response set from the resource library based on the prediction of user's selections over time is considered a predictive pattern. The prediction that the user will select one of the items is user satisfaction data. The predicting functions will provide a model to predict the user's satisfaction. Moreover, generating a response set that includes the most relevant items to a user's query is user's satisfaction data); and modifying said search mechanism based on the predicted user satisfaction data (**Biebesheimer**: page 2, par 19; page 4, par 37; page 5, pars 42-44; Fig. 1; the adaptive learning algorithm learns which resources to provide to the user based on the prediction that users selected over time).

#### **Claims 19 and 23**

Biebesheimer anticipates said modification of said search mechanism comprises modifying said search mechanism so said search results for a given query are presented in a different order (**Biebesheimer**: page 3, par 30, L1-23; page 6, pars 49-50; Fig. 1; displaying the results in the sequence specified by the user. The system retains adjustments to user results viewing behavior).

#### **Claims 20 and 24**

Biebesheimer anticipates said context-based user behavior data comprises a pre-judged set of user behavior data (**Biebesheimer**: page 3, par 33, L1-14; page 4, par 37; Fig. 1; the user interaction record for a user/group is a pre-judged set of user behavior data).



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**Claim 21**

Biebesheimer anticipates at least one of an operating system, a computer readable medium having stored thereon a plurality of computer-executable instructions, a co-processing device, a computing device, and a modulated data signal carrying computer executable instructions for performing the method of claim 18 (**Biebesheimer**: page 13, claim 20).

**Claim 26**

Biebesheimer anticipates means for modifying said search mechanism based on the outputted predicted user satisfaction data (**Biebesheimer**: page 2, par 19; page 4, par 37; page 5, pars 42-44; Fig. 1; EN: the adaptive learning algorithm learns which resources to provide to the user based on the prediction that users selected over time).

**Claim 27**

Biebesheimer anticipates isolating problematic queries based on the predicted user satisfaction data (**Biebesheimer**: page 2, par 19, L6-22; page 5, pars 43.and 44).

**Claim 28**

Biebesheimer anticipates generating a summary of measured satisfaction based on the predicted user satisfaction data (**Biebesheimer**: page 5, par 45, L9-23; EN: generating a response set based on the scoring or relevance (satisfaction data) to the user's query).

## **Claim 29**

Biebesheimer anticipates monitoring a search mechanism responsive to the predicted user satisfaction data (**Biebesheimer**: page 2, par 19; page 4, par 37; page 5, pars 42-44; Fig. 1; EN: if the system is learning, then some monitoring is taking place).

## **Response to Applicant's arguments**

### **In reference to Applicant's arguments:**

Claims 1 and 18 have been amended to include generating predicted user satisfaction data based on the application of the predictive pattern to context-based user behavior data. The predicted user satisfaction data comprises an indication of user satisfaction. Claims 10, 22, and 25 have been amended to include that the predictive pattern is a model that predicts user satisfaction based on the context-based user behavior data. These features are neither disclosed nor suggested by Biebesheimer.

### **Examiner's response:**

The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. All of the features identified by the applicant have been anticipated by relevant sections of Biebesheimer as set forth above (**Biebesheimer**: abstract, L1-12; page 1, par 2; page 2, par 18; page 3, par 30; pages 5 and 6 pars 42-44). The Examiner interprets generating a response set from the resource library based on the prediction of user's selections over time as being a predictive pattern. The prediction that the user will select one of the items is user satisfaction data. The predicting functions will provide a model to predict the user's satisfaction. Moreover, generating a response set that includes the most relevant items to a user's query is user's satisfaction data.

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**In reference to Applicant's arguments:**

Biebesheimer is directed to improving the relevance of a response set that is retrieved pursuant to a user query. In Biebesheimer, a user query for requesting resources is received, and the user query, along with a user context vector, is mapped to a sub-set of resources in a resource library. A response set is generated that includes the sub-set of resources that are deemed to be most relevant to the user's query. Biebesheimer does not have a predictive pattern, does not predict user satisfaction, and does not generate predicted user satisfaction data. Biebesheimer's mapping is basically a filtering operation and is also referred to as a narrower search. Biebesheimer does not provide a prediction of user satisfaction, as recited in the claims.

Biebesheimer describes an adaptive indexing function that is used to increase the value of search results. The adaptive indexing function learns the characteristics of a user and tries to output a set of results that are more relevant to the user, thereby accomplishing a more "successful" retrieval of results. Biebesheimer does not generate or output predicted user satisfaction data, as recited in the claims

The Office Action equates the user interaction of Biebesheimer with predictive patterns, and equates the response set of Biebesheimer with predicting user satisfaction. The user interaction of Biebesheimer is described as including traces of previous interactions with users, the system's responses, and user feedback (paragraph [0041]). This user interaction is used in adaptive indexing to create functions of increasing relevance and specificity for a user. The user interaction is different from the predictive patterns as claimed. These functions of Biebesheimer are used to process a user's query and generate a relevant response set (paragraphs [0041] -[0044]). There is no user satisfaction prediction at all, just a response set.

Biebesheimer does not disclose the generation of predicted user satisfaction data, as recited in the claims 1 and 18. Biebesheimer does not disclose a predictive pattern that is a model for predicting user satisfaction, as recited in claims 10, 22, and 25. Therefore, claims 1, 10, 18, 22, and 25, and all claims dependent therefrom, should not be rejected as being anticipated by Biebesheimer. Therefore, withdrawal of the rejections of claims 1-26 under 35 U.S.C. § 102(b) is respectfully requested.

**Examiner's response:**

The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. All of the features identified by the applicant have been anticipated by relevant sections of Biebesheimer as set forth above (**Biebesheimer**: abstract, L1-12; page 1, par 2; page 2, par 18; page 3, par 30; pages 5 and 6 pars 42-44). The Examiner interprets

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generating a response set from the resource library based on the prediction of user's selections over time as being a predictive pattern. The prediction that the user will select one of the items is user satisfaction data. The predicting functions will provide a model to predict the user's satisfaction. Moreover, generating a response set that includes the most relevant items to a user's query is user's satisfaction data.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
6. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.
7. Claims 1-29 are rejected.

### ***Correspondence Information***

8. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached

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Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email [omar.fernandez.rivas@uspto.gov](mailto:omar.fernandez.rivas@uspto.gov).


If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas  
Patent Examiner  
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Friday, November 24, 2006



DAVID VINCENT  
SUPERVISORY PATENT EXAMINER